

A CONTRIBUTION TO THE ACULEATE HYMENOPTERA OF THE BOMBAY PRESIDENCY.

BY

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With 2 or 3 exceptions the species described in this paper have been taken at Deesa and Matheran by Lieut.-Col. C. G. Nurse.

SCOLIIDÆ.

Discolia nigrobimaculata, sp. nov.

Red, yellow and black ; the antennæ, face, clypeus, base of mandibles, a line, behind and touching the hinder ocelli, uniting the eyes at the hinder edge transverse in front, rounded behind, occiput, thorax, basal segment of abdomen except at the apex, the 5th and following segments, the ventral, and the legs, ferruginous, the front and vertex, except for the transverse line, the outer orbits, and the 2nd, 3rd and 4th abdominal segments for the greater part pale orange yellow ; the following parts are black : the mandibles except at the base, a narrow line of equal width on the apex of the 1st abdominal segment, a wider one on the 2nd, obliquely dilated in the middle, a narrower one, less strongly dilated in the middle, on the 3rd, similar lines on the base of the 2nd to 4th segments, but more sharply triangularly dilated, in the middle, except that on the 4th, which is only slightly dilated, and an oblique irregular spot near the middle of the sides of the 2nd, black ; legs ferruginous, the hair white, the tarsal spines and culcuria pale ferruginous. The hair is pale ferruginous, darker coloured—more reddish—on the mesonotum and on the apical abdominal segments. Wings hyaline, largely tinged with fulvous on the fore margin, the apex in front from near the radial cellules, with a smoky violaceous cloud. ♀.

Length 15-17 mm.

Deesa, October (Nurse).

Head smooth, except for some scattered punctures on the front ; the thorax closely, coarsely punctured, except on the apical slope of the metanotum.

Allied to *D. histronica*, F., which is a larger species, has the thorax largely infuscated, wants the rufous transverse stripe at the ocelli found in the present species ; the abdominal yellow (at least on the 3rd and 4th segments) is not continuous, but forms large lateral spots and there is no black spot on the sides of the 2nd.

POMPILIDÆ.

Pompilus benedictus, sp. nov.

Black, the abdomen and legs except the coxæ, ferruginous, the head and thorax densely covered with silvery pubescence ; wings hyaline, the apex from shortly behind the end of the radius smoky, flagellum fuscous, the scape covered with silvery pubescence ; pronotum as long as the head ; metanotum furrowed down the middle at the base and apex ; the cubitus in hind

wings received very shortly before the transverse median. Ocelli in a curve, the hinder separated from each other by a greater distance than they are from the eyes, which converge distinctly above and are hardly separated from the mandibles in front, but distinctly so behind. The 1st joint of the flagellum is clearly longer than the 2nd. Pronotum shorter than the mesonotum; the metanotum has a more oblique slope on the apex than on the base, where it is rounded. ♀ and ♂.

Length 6-7 mm.

Deesa (Nurse).

The 2nd abscissa of radius twice the length of the 3rd distinctly shorter than the space bounded by the 2nd recurrent (which is received in the middle of the cellule) and the transverse cubitals; the front (and larger) part of the 3rd transverse cubital has a sharp, straight oblique slope. The long spur of the hind tibiæ is half the length of the metatarsus; the claws without a tooth, but the anterior is dilated at the base. The radial cellule is sharp-pointed at the apex; the apical abscissa of the radius is a little roundly curved. The transverse median nervure in front wings not quite interstitial, being received shortly beyond the transverse basal. Fore tarsi with long, stout spines. The apical slope of metanotum distinctly transversely striated; the furrow deep in its middle. In the ♂ the 1st joint of the flagellum is as long as the 2nd; the claws are dilated at the base as in the ♀.

This species does not fit into any of the Ashmeadian genera. Except as regards the claws it might run into *Sericopompilus*.

Pompilus ithonus, sp. nov.

Black, densely covered all over with silvery pubescence, which gives it a grey colour, the wings hyaline, the apex from the end of the radius smoky, the nervures black, the 2nd abscissa of the radius 3 times as long as the 3rd, the latter distinctly less than the space between the 2nd recurrent and the transverse cubital nervures; the 2nd recurrent is received in the middle of the cellule, the apical abscissa of the radius is straight, without a curve, oblique. Apex of clypeus almost broadly rounded, the centre transverse, the sides broadly rounded. Apex of mandibles broadly rufous. Eyes a little converging above. Pronotum not quite so long as the head, its base distinctly narrowed, the apex angled in the middle. Metanotum long, gradually rounded from the base to the apex, the centre with a distinct, moderately wide longitudinal furrow. Tibial and tarsal claws moderately long, black, the long hind spur not two-thirds of the length of the metatarsus, the spines on fore tarsi long. Ocelli in a triangle; the hinder separated from each other by almost the same distance as they are from the eyes. The 1st joint of the flagellum is distinctly longer than the 2nd. ♀ and ♂.

Length ♀ 7 mm., ♂ 6 mm.

Deesa (Nurse).

The head viewed from the front as wide as long. The claws have not a distinct tooth at the base in either sex. The cubitus in hind wings originates

distinctly before the transverse median nervure. Eyes reaching to the base of the mandibles on inner side. The tarsal comb long in ♀. The transverse median nervure is received shortly behind the transverse basal, almost interstitial.

This species does not fit into any of the genera in Ashmead's Revision (Can. Ent. XXXIV, p. 80—87). It comes nearest to the character given for *Ferreola*, but that has the claws in the ♀ with a tooth and in the ♂ they are cleft, it differing also in some other respects. The silvery pile on the base of the abdominal segments may become rubbed off.

SPHEGIDÆ.

Oxybelus latilineatus, sp. nov.

Black, a line on apex of pronotum, tubercles, a large oblique, somewhat oval spot on sides of scutellum, the base of post-scutellum broadly, the squamæ, the apex of central squama narrowly, and broad lines on the basal 4 abdominal segments, pale yellow, the Pygidium rufous, the underside of the 4 front femora, their tibiæ except for a black line behind, the hinder except for a line on the lower basal third and the greater part of the tegulæ, pale yellow; the tarsi yellow, tinged distinctly with fulvous. Wings hyaline, the nervures black. Central scutellar spine curved, about 4 times longer than wide, of equal width, the centre depressed, the apex transverse; the lateral spines rounded on outer side, gradually narrowed to a point, longer than they are wide at the base, the outside depressed. Scutellum keeled down the middle. Metanotum areolated, the areæ large, the upper central smooth, shining, longer than wide, broadly pyriform, the narrowed end below. Mesopleuræ closely, rugosely punctured, opaque; the metapleuræ with curved, distinctly separated striæ. Abdomen strongly punctured throughout; the pygidium appears as if longitudinally striated and covered with a stiff depressed pile. Flagellum for the greater part reddish brown. Mandibles yellow red and black. There are no distinct furrows on the mesopleuræ. ♀.

Length 4 mm.

This species should be known by the areolated metanotum, the wide yellow band uniting the lateral spots on the post-scutellum, and the fulvous pygidium.

Oxybelus pictisentis, sp. nov.

Black, antennal scape except above, a line, narrowed on innerside, on the sides of the pronotum, tubercles, tegulæ, an oblique; oval spot on the sides of scutellum, the lateral squamæ, apical half of spine, a semi-circular mark on the sides of 1st abdominal segment, a longer line, roundly dilated on the inner side at the base on the sides of 2nd, 2 longish lines on the 3rd and a continuous one on the 4th, pale yellow. Anterior coxæ black, the 4 posterior black above, yellow below, fore femora red in front, black behind at the base and above, the black line gradually narrowed towards the apex, the apex below it yellow, the 4 hinder red, the middle with the apical half broadly yellow; the tibiæ and tarsi yellow, the middle tibiæ broadly, the posterior at the apex behind black; hind spurs fulvous. Lateral squamæ large, broad at the base, gradually narrowed to a fine

point; the central about 3 times longer than wide, of equal width, the apex with a triangular incision. Central area of metanotum irregularly coarsely aciculated above and with a few oblique irregular striæ, below it is smooth and shining, the sides of metanotum aciculated and bearing distinctly separated oblique striæ. Mesothorax strongly punctured, the pleuræ more strongly than the rest; down the centre of the latter is a furrow which extends shortly below the middle; on either side of its lower end is an obscure curved longitudinal furrow. Flagellum rufo-fulvous. Pygidium long, gradually narrowed from the base to the apex, which is rufous; it is strongly closely punctured. Mandibles broadly pale yellow at the base, a rufous belt beyond the yellow, the apex black. Wings hyaline, the nervures mostly black, tegulæ pale yellow. ♀.

Length 6 mm.

Deesa, December.

The puncturation is strong, the scutellar central keel is clearly defined; there is a stouter, less clearly defined one down the centre of the post-scutellum; the pubescence close, pale. The mucro is hollowed above, not curved.

Oxybelus fulvicaudis, sp. nov.

Black, the abdomen slightly tinged with bronzy colour, the last segment bright fulvous, the greater part of the 4 anterior tibiæ, the apex of the posterior, and the tarsi rufo-testaceous; the base of antennal scape narrowly, and its apex more broadly testaceous, the flagellum rufo-testaceous. Wings clear hyaline, the nervures and stigma fuscous. Scutellar process about 4 times longer than wide, curved, of equal width throughout, the apex with a wide, rounded shallow incision. ♀.

Length 4 mm.

Deesa, December (Nurse).

Lower part of front, face, clypeus and outer orbits covered with silvery pile. Front and vertex closely punctured, the former with a wide smooth depression, widest below in the middle of lower half. Clypeus smooth, depressed, brownish, its apex roundly projecting. Base of mandibles broadly pale yellow, the centre ferruginous, the apex black. Prothorax almost smooth, the mesonotum strongly, closely punctured, the scutellum similarly punctured; its centre is stoutly keeled, the sides and apex are also keeled, there being a crenulated furrow inside the keel. Metanotal area large, an elongated triangle, extending almost to the apex its sides at the base stoutly obliquely striated, the middle part aciculated, the apex smooth; the sides at the top stoutly, obliquely irregularly striated, the apex strongly aciculated, almost punctured. Mesopleuræ irregularly rugosely punctured; there is a wide furrow below the middle, the breast is bordered by a curved crenulated furrow. There is a striated area, bordered at the apex, by a curved furrow; the apex above is obscurely striated, below it is smooth. Basal segment of abdomen smooth, the rest closely punctured; the segments laterally covered with silvery pubescence, the pygidium with longish punctures and with silvery pubescence.

The lateral mucro is small, triangular, rounded on the outside, the central has the sides raised. Ocelli in a curve, the hinder separated from each other by double the distance they are from the eyes. Tubercles pale yellow.

A distinct little insect, not easily confounded with any of the known Indian species.

Oxybelus forticarinatus, sp. nov.

Black, the antennal scape, base of mandibles, the apex of pronotum, tubercles, a mark on the sides of the scutellum, oblique, oval, wider than long, the lateral squamæ, and broad transverse lines on the sides of the basal 4 or 5, abdominal segments, the apices of the 4 anterior femora, the underside of the anterior, the greater part of the 4 anterior tibiæ, the base of the posterior and the tarsi, yellow; the coxæ and the apical two-thirds of the hind tibiæ black, the 4 hinder trochanters and femora rufous; flagellum dark rufous. Wings hyaline, the nervures dark fuscous. Scutellar lamina large, twice longer than wide, roundly narrowed towards the apex, which has a \wedge -shaped incision; the colour is rufous, yellowish round the edges; down the centre is a strong longitudinal keel, from which radiate some obscure striæ. ♀ and ♂.

Length 4.5 mm,

Deesa, March (Col. Nurse).

Head below the ocelli densely covered with silvery pubescence; the vertex less closely pilose, strongly, closely punctured; the front less closely punctured. Apex of clypeus with 3 short, stumpy teeth. Base of mandibles broadly yellow, the middle rufous, the apex black. Pronotum smooth, the apex carinate, the sides oblique. Mesonotum closely punctured, the scutellum more shining, more strongly punctured, but with the punctures much more widely separated and with a keel down the centre; the lateral laminæ triangular, longer than they are wide at the base, the outer side rounded, the apex ending in a curved point; the apex of the scutellum is depressed and has a stout central and 3 short, stout lateral keels. On the apical slope of the metanotum, on the upper half, is a triangular area, its apex being smooth, depressed, the rest being roughened; on either side is an oblique, narrower, triangular area; the sides are strongly keeled. Mesopleuræ somewhat strongly punctured, the metapleuræ obliquely striated, the striæ clearly separated. Abdomen strongly punctured, the penultimate segment more strongly than the other; the sides of the last raised, bordered by a smooth line, its apex transverse; there may be 2 more or less distinct yellow line on the 5th segment; the apical yellow lines are not so widely separated as the basal.

The amount of black, yellow and red on the legs varies, as does also the strength of the puncturation.

This species comes near to *O. squamosus*, Sm., the two may be separated by the form of the scutellar process; in *squamosus* there is no stout central keel and its centre is broadly raised; in the present species there is down its centre a stout longitudinal keel and the sides are raised; *i.e.*, there is a depression

on either side of the keel; *forticarinatus*, too, is a much smaller species than *squamosus*—4.5 mm. as against 7 for the latter.

Dasyproctus testacelpalpis, sp. nov.

Black, the antennal scape, mandibles except at apex, an interrupted line on apex of pronotum, tubercles, the scutellar keels, 2 somewhat semi circular marks on the basal half of scutellum, a curved line, narrowed on the inner side, on outer fourth of 3rd abdominal segment at the base, and a much shorter one on the base of the 4th, pale yellow. Legs black, the 4 anterior femora for the greater part below and almost the apical half above, the 4 anterior tibiæ almost entirely, and the hinder behind, and the basal joint of the tarsi, yellow, the other tarsal joints rufous. Wings hyaline, the costa and nervures fuscous. Metanotum opaque, aciculated, almost punctured; there is no basal area; in the centre of the base are 2 keels forming an area; the part on either side is obscurely, irregularly striated; the apical slope furrowed down the middle; the pleuræ are more shining, distinctly, closely obliquely striated, the striæ strongest at the base. Abdominal petiole nearly as long as the following 2 segments united. Front, face and clypeus densely covered with silvery pubescence, the front above bordered by a keel. Front covered with shallow, clearly separated punctures; the vertex obscurely punctured ocelli in a curve. Propleuræ striated in the centre; there are some longer striæ above. Palpi testaceous. ♀

Length 7 mm.

Deesa, April (Nurse).

Head and mesothorax opaque; the mesopleural furrow obscurely crenulated. Tibial spines weak. The abdominal petiole is only slightly dilated towards the apex.

Tachysphex striolatus, sp. nov.

Black, shining, the head, pro and mesothorax closely punctured, the head more strongly than the latter, the metanotum strongly striated in the centre, the striæ there distinctly separated, the outer curved; the striæ on the sides closer and finer; the metapleuræ more irregularly, but still distinctly striated, the face and sides below the antennæ covered with silvery pubescence. Apical joints of tarsi rufous; the spines long, white on the anterior, there being at least 7 on the metatarsus. Eyes distinctly converging above, they are separated there by the length of the 3rd and 4th antennal joints united. Wings hyaline, the stigma fuscous, the nervures darker coloured; the 3rd abscissa of the radius not quite half the length of the 2nd. The 3rd and 4th joints of the antennæ are equal in length; the pedicel wider than long. ♀

Length 6-7 mm.

Deesa, December (Nurse).

The apices of the abdominal segments have broad bands of silvery pubescence. The fovea on the apex of the metanotum is deep, triangular, longer than it is wide above; its central furrow clearly defined; the sides on either side, are transversely striated. Legs spines white; calcaria blackish. Tegulæ pale piceous.

VESPIDÆ.

Odynerus leviscutis, sp. nov.

Brownish-red, the clypeus and the 2nd abdominal segment above, except for a broad triangular mark on the base yellow, wings hyaline, tinged with fulvous, the apex slightly violaceous. ♂.

Length 11-12 mm. to end of 2nd abdominal segment.

“Bombay.”

Closely, strongly punctured, the mesonotum only sparsely so, the scutellum smooth, impunctate, the top of postscutellum not quite so smooth, its apex rough, depressed in the centre, the apical slope steep, long, smooth, bluntly, roundly narrowed below. Apex of metanotum with a steep, vertical slope, closely, transversely striated, the sides above with 2 distinct teeth, of which the lower is the larger and thicker, and 2 indistinct ones below. First abdominal segment large, cup shaped, with a short, but distinct neck at the base; the 2nd wider than long, not reflexed at apex, nor narrowed at base. Temples somewhat short, broadly roundly narrowed. Base of thorax transverse without a raised margin, the apex almost transverse. There is a pale mark over the antennæ, which becomes gradually widened from the top to the bottom, the eye incision is also pale yellow.

This species is not unlike *O. punctum*; it is larger, has the scutellum longer, narrower and transverse at the apex, the temples are shorter and distinctly roundly narrowed, the mesonotum is almost and the scutellum quite smooth, not closely distinctly punctured as in *punctum*, the 2nd abdominal segment is shorter, and the wings lighter coloured, the apical cloud being very faint. The yellow on the 2nd abdominal segment is on the top only, not all round as in *punctum*.

Odynerus henricus, sp. nov.

Black, with the following yellow marks; antennal scape below, the lower part of eye incision—the line broad above, narrow below—a mark over the antennæ, dilated above, with the middle slightly incised and the sides rounded, mandibles, a small mark behind the eyes, 2 lines on pronotum, broad and oblique on inner side, post-scutellum, metanotal process, apex of basal 2 abdominal segments, the apical 2 in the middle, the latter lines broader than long, under side of 1st abdominal segment and the base of the 2nd yellow largely tinged with rufous. Legs yellow, the coxæ above and the femora rufous. Antennæ below towards the apex and the antennal hook reddish brown. Wings hyaline, the stigma brown, the nervures darker. Tegulæ yellow with a large dark fuscous mark near the base. ♂.

“Bombay.”

Length to end of 2nd segment 6 mm.

First abdominal segment with a wide stout, transverse keel near the base; the next clearly longer than wide, its apex very slightly reflexed and with a row of strong punctures. Clypeus longer than wide, sparsely punctured, the sides obliquely sloped, the apex bidentate. Antennal hook stout. Base of thorax.

transverse, the apex laterally broadly rounded. Apex of post-scutellum broadly rounded. Thorax more than twice longer than wide. The keel on the base of the abdomen is broader, stouter and more clearly defined than usual. The puncturation is distinct, finer and weaker on the abdomen than on the head or thorax; the whole body has a silvery pile. The 1st abdominal band is distinctly dilated on the sides and is narrowly bordered at the base with red, the 2nd is narrowed in the middle.

A distinct species of *Ancistrocerus*, which appears to be rare compared with *Odynerus*, *sensu str.* in India.

Odynerus (Ancistrocerus) xanthozonus, sp. nov.

Black, under side of antennal scape, clypeus, a small irregular spot over the antennæ, mandibles largely above, a line on pronotum, tegulæ except in centre, and the apices of abdominal segments, yellow. Legs, yellow, the coxæ in front, and the greater part of femora black, the middle femora with the apical half yellow in front. Wings fuscous, with a distinct violaceous tinge, the nervures and stigma black. ♂.

Length 10 mm.

Bombay.

Antennal claw stout, not reaching to the middle of 10th joint. Head closely punctured, thickly covered with long white hair. Clypeus roundly convex, sparsely punctured, the apical incision semi-circular. Thorax closely, strongly punctured, thickly covered with short thick white pubescence; the punctures on the scutellum are more widely separated; the scutellum slightly depressed in the middle; post scutellum rugosely punctured, its apex with an oblique slope. Median segment short, rugosely reticulated, except in the middle, the rugose part clearly separated by a keel, the centre with a stout keel.

Rhynchium auratiacum, sp. nov.

Orange-yellow, the antennal flagellum, vertex and mesonotum of a deep orange colour; wings hyaline, slightly infuscated, the costa and stigma orange yellow, the costal cellule tinged with fulvous. ♂.

Length to end of 2nd abdominal segment 8 mm.

Deesa, October (Nurse).

Head and thorax closely and strongly punctured, the puncturation on the abdomen finer. Clypeus distinctly longer than wide, the middle above wide and transverse, the apex with a shallow rounded incision; the puncturation weak and sparse. Base of thorax quite transverse, the sides not projecting. Top of post scutellum broadly rounded, the apex with a serrated edge, the apex with a straight steep slope, smooth, except narrowly above, the apex transverse. Apex of metanotum with a steep slope, finely, closely transversely striated; the upper half of the sides closely serrated, the lower less strongly serrated, the center with a slight projection. First abdominal segment cup-shaped; the second wider than long, the apex broadly depressed, much more strongly punctured than the rest, the punctured part projecting roundly backwards in the middle; the

extreme apex slightly reflexed. Mesopleural furrows distinct, the part enclosed by them forming almost a triangle. Antennal hook moderately stout, its apex reaching to the base of the 10th joint.

A distinct species easily recognised by its colour from the known oriental species.

ANTHOPHILA.

Andrena bombayensis, sp. nov.

Black, the abdomen, legs and tegulæ rufo-testaceous, the labrum and mandibles, except at apex, of a darker rufous colour, wings clear pale hyaline, the stigma and nervures pale testaceous, the costa darker coloured; the 2nd abscissa a little more than half the length of the 3rd, the 2nd cubital cellule almost square, the recurrent nervure received near its apex. Metanotal area at the base finely obliquely striated, the striæ weaker on the centre than on the sides. Labrum shining smooth, not furrowed; the lower edge of the clypeus dark rufous. Face and clypeus rough, thickly covered with pale pubescence. Mesonotum and scutellum smooth and shining. Post-scutellar region thickly covered with white depressed pubescence. Extreme base of antennal scape dark red; the flagellum for the greater part rufo-testaceous. The hair on the legs is long, dense and pale; the calcaria rufo-testaceous. Abdomen longish ovate, longer than the head and thorax united. Clypeus broad, its apex fringed with long, stiff fulvous hair. Temples rounded. Apical segments of abdomen infuscated.

Length 6 mm.

Runs into Bingham's section B "Enclosed space at base of median segment finely obliquely striate," which contains few species.

Deesa, April.

Andrena levilabris, sp. nov.

Black, the head and thorax densely covered with long whitish hair, the abdomen with white, depressed hair bands, the hair on the apex long, stiff, black, the middle hairs dark testaceous on the apical half, the area on metanotum closely rugosely punctured, the sides more strongly punctured; labrum smooth, shining, without a furrow, round the apex fringed with long pale fulvous hair. Clypeus closely, somewhat strongly punctured. Mesonotum with a distinct furrow down the centre of the basal half. Wings hyaline, slightly suffused with fulvous, the stigma dark testaceous, the nervures blackish, the 2nd abscissa of radius one-fourth longer than the 3rd; the 1st recurrent nervure is received shortly behind the middle. The basal joints of the hinder 2 tarsi and the hind tibiæ are densely covered with rufo-fulvous hair. ♀.

Length 11 mm.

Ferozepore, May (Nurse).

A stout broad species. Head narrower than the thorax; mandibles black, labium semi-circular. Abdomen broad-oval, shorter than the head and thorax united, its back closely, finely punctured. Antennæ black, the 2nd joint of

flagellum narrowed at the base, slightly, gradually widened towards the apex ; it is distinctly longer than the following 2 united, the following is distinctly shorter than the 4th.

Andrena punjabensis, sp. nov.

Black, the clypeus, except for a roundish black spot on either side of the middle and the apical segments of the abdomen, pale yellow, the apical joints of the tarsi fulvous, wings hyaline, the costa and stigma fulvo-testaceous, the nervures darker coloured, the 3rd abscissa of the radius a little longer than the 2nd ; the recurrent nervures are received about the same distance from the cubitals, the 2nd near the base of the apical fourth. Vertex and front opaque, shagreened, finely striated below the ocelli. Pro- and mesonotum shining, sparsely, weakly punctured ; the metanotum opaque, coarsely shagreened, almost punctured, the basal area not clearly defined. Abdominal segments with narrow, but distinct bands of white pubescence. Flagellum brown, black on top. Calcaria white. The transverse median nervure is received shortly behind the transverse basal. Temples obliquely narrowed. ♂.

Length 7 mm.

Ferozepore, February. (Nurse.)

The abdomen is longish-ovate, more narrowed at the apex than at the base ; the apices of the segments under the hair bands are pale lead-coloured. The occiput is not wider than the thorax. Labrum black, fringed laterally by white pubescence, in its centre is a curved transverse furrow. 2nd joint of flagellum not quite so long as the following 2 united.

Allied to *A. satellita*, Nurse, which may be known from it by there being a yellow spot on either side of the clypeus and by there being a distinct keel down the middle of metanotum, and the 1st recurrent nervure is received nearer the middle of the cellule.

Halictus deesanus, sp. nov.

Black, the basal 2 abdominal segments red, under side of antennal scape reddish brown ; the pubescence white ; the abdominal segments with bands of white depressed pubescence ; wings hyaline, the stigma and nervures fuscous ; the 2nd abscissa of radius a little shorter than the 3rd, the 1st recurrent nervure interstitial with the 2nd transverse cubital nervure ; the 2nd abscissa of cubitus as long as the space bounded by the 2nd transverse cubital nervure and the 2nd recurrent, the 3rd transverse cubital nervure roundly sloped, not very oblique ; area on metanotum with some irregular, more or less curved and oblique striæ, the rest of it smooth and shining ; striæ do not reach to the top of the apical slope. Anal rima large, not clearly defined, dark rufous. Apex of clypeus broadly and clearly depressed, transverse. The 1st abscissa of the radius is clearly longer than the 2nd. ♀.

The ♂ is similarly coloured ; the alar nervures are paler and the 2nd cubital cellule is smaller apparently.

Length 8 mm.

There is no clearly defined anal rima, but otherwise it seems to be a true *Halictus*.

Deesa, February and March (Nurse).

Halictus latisignatus, sp. nov.

Length 7 mm. ♀ & ♂.

Matheran, March.

This species is very similar in size and colouration to *H. deesanus* described above; the 2 may be separated thus:—

1st abscissa of radius, if anything, longer than the 2nd; the 2nd recurrent nervure almost interstitial, the metanotal area with stout clearly separated striæ, the metanotum shining, not distinctly aciculated, the rima not clearly defined, nervures dark testaceous*deesanus*.

1st abscissa of radius half the length of the 2nd; the 2nd recurrent nervure clearly separated from the transverse cubital; the metanotal area with close, fine striæ, almost forming reticulations, the rest of the metanotum distinctly aciculated, almost punctured, the anal rima distinct, triangular; nervures pale testaceous*latisignatus*.

The 2nd cubital cellule is not much longer than wide; in *deesanus* it is much narrower, being half the length along the radius that it is along the transverse cubital. Pubescence clear white; the abdominal segments have distinct bands of white pubescence. Apex of clypeus slightly depressed, the sides appearing therefore slightly raised. The pubescence on the head is closer and somewhat stronger than it is on the thorax. Apical joints of tarsi rufo-testaceous. The base of the 3rd abdominal segment is seen to be rufo-testaceous when the pubescence is absent.

H. rubescens, Nurse, is very similar but may be readily separated by the median segment being opaque and granular-punctured all over, the area, too, being only defined by the stronger puncturation.

Halictus abuensis, sp. nov.

Dark blue, the abdomen black, tinged with blue and violaceous, the clypeus tinged with violaceous, the pubescence pale cinereous, the apices of the basal 4 abdominal segments with a whitish hair band; legs black, the apex of the femora and the tibiæ and tarsi rufo-ferruginous; wings clear hyaline, the stigma pale testaceous, the nervures blackish; tegulæ pale piceous. ♀.

Length 7 mm.

Abu (Nurse).

Metanotal area closely longitudinally striated, the striæ more or less twisted. Head, pro and mesothorax closely, distinctly punctured; the punctures on the clypeus larger, deeper and much more widely separated, its apex is impunctate. Head moderately large, as wide as the thorax. Abdomen shining, closely, minutely punctured; the apex of rima rufous. The 2nd cubital cellule of equal width; the 1st recurrent nervure interstitial. There are no transverse lines on the basal abdominal segments.

In Bingham's arrangement this species would come in close to *propinquus* and *vernalis*, with neither of which can it be confounded.

Halictus clarus, Nurse.

Journ. Asiat. Soc., Beng. LXX, 1901, 147.

The undescribed ♂ of this species is similarly coloured to the ♀, except that, as usual, the apex of the clypeus is broadly yellow; the flagellum is pale brown except above; the coxæ, trochanters and femora are black, as well as more or less of the hind tibiæ. Probably the amount of black on the legs varies; according to Col. Nurse, *i.e.*, the "femora, tibiæ and tarsi of the median and posterior legs" are honey-yellow, but in the examples of *clarus* I have had from Col. Nurse, these organs are largely marked with black. *H. lucilipennis* Sm. from "Northern India" appears to be a closely allied species. In *clarus* the green as usual runs into brassy and even purplish tints. *H. propinquus*, Sm. is a closely related species; it may be known by its larger, broader, more oval form and by the apical slope of the metanotum, being distinctly margined laterally, a structure not mentioned by authors. *H. clarus* occurs at Matheran as well as at Deesa.

Halictus emergendus, sp. nov.

Black, the head except the vertex, thickly, the pro and mesothorax less closely, the post-scutellum very closely, and close distinct bands of pubescence on the apices of the abdominal segment, white; the hair on the legs white, the apical joints of the tarsi more or less rufescent; the spurs white, tinged with rufous. Wings hyaline, the stigma and nervures pale testaceous. Basal area of metanotum with irregular, more or less divergent, oblique striæ; the sides of the apical slope distinctly, and the top less strongly, keeled. Basal segment of abdomen smooth, impunctate, shining; the other segments closely, minutely punctured, without transverse furrows; the rima is edged with dark rufous pubescence, and is black. Wings hyaline, the stigma testaceous, the nervures darker coloured. Eyes converging below. Clypeus strongly, but not very closely punctured. Mesonotum closely, distinctly punctured, forming almost fine reticulations at the base; the scutellum is more shining and less strongly punctured. Tegulæ piceous. ♀.

Length 4.5 mm.

Matheran, March.

The striæ on the metanotal area form almost reticulations at the base; the striæ are certainly more "oblique, divergent," than "longitudinal," so the species comes into Bingham's section A., near *catullus*; the basal segment of the abdomen is only glabrous in the centre, the base and sides being covered with white pubescence.
